

GLUE SNIFFING & OTHER RISKY PRACTICES AMONG STREET CHILDREN IN URBAN BANGLADESH

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Acronyms

ADB	Asian Development Bank
AIDS	Acquired Immune Deficiency Syndrome
AusAID	The Australian Government's Overseas Aid Programme
CIDA	Canadian International Development Agency
DFID	United Kingdom Department for International Development
EKN	The Embassy of the Kingdom of the Netherlands
FSW	Female Sex Worker
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
GOB	Government of Bangladesh
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
IVDA	Intravenous Drug Abuser
KfW	Kreditanstalt für Wiederaufbau
MOHFW	Ministry of Health and Family Welfare
MSM	Men who have Sex with Men
MSW	Male Sex Worker
NASP	National AIDS/STD Programme
NGO	Non-Government Organization
OST	Opioid Substitution Therapy
PSU	Primary Sampling Unit
RCC	Rolling Continuation Channel
Sida	Swedish International Development Cooperation Agency
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
SW	Sex Worker
TB	Tuberculosis
Tk	Bangladeshi Taka
TLS	Time-location sampling
UNAIDS	United Nations Programme on HIV/AIDS

UNFPA	United Nations Population Fund
UNODC	United Nations Office on Drugs and Crimes
USAID	United States Agency for International Development
USD	United States Dollar
WB	The World Bank

Foreword

The inhalation of solvents among children and adolescents for recreational purposes has been a long standing problem in the developed world, although it is an emerging issue in South Asia, especially in urban areas. This study explores the linkage between glue sniffing and other drug use and high risk practices related to increased vulnerability and risk for HIV and AIDS in Bangladesh and also documents the serious health effects of glue sniffing. Although Bangladesh has an overall low prevalence of HIV, it is facing a concentrated HIV epidemic among injecting drug users. There is a risk that young children who inhale glue may also be more likely to use other drugs, and that this early introduction to drugs lead to injecting drug habits, associated with increased risk for transmission of HIV, Hepatitis C and other sexually transmitted diseases.

This study aimed at assessing the nature of drug use and other risky practices among street children aged 11 to 19 years in Dhaka and Chittagong, the two major metropolises of Bangladesh. The study highlights the vulnerability of street children in general and the problems they face on the streets, primarily due to their lack of social protection. Inhalation of glue and use of other substances like cannabis and pharmaceuticals, smoking and chewing tobacco, were found to be prevalent among these children. They were also found to be sexually active early and most of them were engaged in unprotected sex, most girls selling sex, and most boys reporting low condom use. Although this study was not designed to determine a direct causal link between early solvent abuse, injecting drug use and HIV, the study shows an association between glue sniffing, injecting drug use and other risky sexual practices, which amplifies the risk for HIV among these children, making the case for intervening early.

The magnitude of the public health problems faced by street children is likely to increase in the future given the high rates of migration to these two cities in Bangladesh. Interventions targeted at these children should, therefore, be explored now by policymakers and programme managers, considering multi-sector approaches and seeking opportunities to involve all the social sectors: education, health and social protection.

We are pleased to share the findings of this study and we hope that the analyses presented will be useful across sectors to policymakers and

programme implementers, especially those involved in the design of early interventions for street children.

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Executive summary

Bangladesh has been successful in maintaining a low prevalence of HIV to date. The challenge is to sustain the low prevalence particularly in the face of a concentrated epidemic among injecting drug users (IDU) in Dhaka and widespread sex work across the country. Added to these problems is the fact that most drug users (both injecting and non-injecting) in Bangladesh are young people, while rapid urbanization and migration to the major cities intensify the situation.

Data from across the region has shown that the pathway to injecting drug use starts with early initiation into drugs. In the developed world, inhalation of solvents for recreational purposes has been a long standing problem. In South Asia, however, this is an emerging issue. Though the exact number of children addicted to glue sniffing in Asia is not known, it has been identified as a common problem among street children in Thailand, Indonesia, Cambodia, Malaysia, Pakistan, India and Philippines. The prevalence and public health effects of solvent abuse are often underestimated and there is inadequate local knowledge of this phenomenon and its relationship to other risky practices.

Glue sniffing among street children is common due to three main factors: it is relatively cheap; access is easy and legal; and, the feeling of “high” (similar to alcohol intoxication) happens very quickly. Available literature substantiates a relationship between early abuse of solvents and injecting drug use, including the transition from solvent abuse to injecting drug use and vice versa¹. There is also ample evidence of the linkage between drug use and increased vulnerability to HIV and AIDS.

To understand the nature of solvent use and vulnerability of the street children and adolescents in urban Bangladesh, a survey was conducted on a representative, random sample of 640 street children aged between 11 and 19 years in Dhaka and Chittagong. The majority of the respondents were slum dwellers with very limited educational attainments and involved in low income generating activities, mostly rag picking, and begging. Poverty and

¹ For ethical and other methodological reasons, it was not possible or feasible to do HIV testing or a prospective case control study involving street children within the scope of this study, to prove our hypothesis of the casual link between solvent abuse, injecting drug use and HIV. However, multi regression analysis showed a strong association between solvent use and injecting drug use and other risky practices – increasing vulnerability and risk for HIV.

lack of food appeared to be the most compelling reasons for the respondents of this survey to be on the streets with almost three-quarter of the respondents identifying these factors as the main causes. Other reasons included seeking employment, avoiding or overcoming domestic violence and the influence of peer. Abuse (both physical and verbal) was the biggest problem faced by the street children, mostly caused by police and peers.

Adhesive was the most common solvent used by the street children along with thinners and balm. In addition to glue and cannabis, cigarette/*biri* smoking was also found to be pervasive among the respondents. The reasons stated for glue sniffing included peer pressure, curiosity, pleasure, coping with tension, and overcoming family problems. Respondents who slept in public places and parks/streets were more likely to sniff glue – 25% of the glue sniffers slept in parks/streets compared to 13% non-glue sniffers; and 28% of the glue sniffers slept in other public places compared to 14% of the non-glue sniffers. Moreover, street children who sniffed glue were more likely to use other drugs than non-glue sniffers.

Three main risky practices for HIV transmission were explored in this survey: unsafe sex, injecting drugs and selling blood. Drug use was found to be common among street children and adolescents as stated earlier, while injecting drugs and selling blood were less frequent. Although injecting drug use was found to be low overall, of the respondents who reported injecting drugs, a large majority were in the age group of 17 to 19 years and none in the group of 11 to 13 years, while glue sniffing was found to be most prevalent in this younger age group and much less in the age group of 17 to 19 years. This suggests a transition in the drug use pattern – a pathway to injecting drug use starting with early initiation into drugs – although further research is needed to prove our hypothesis of a direct causal link between early glue sniffing, later injecting drug use and HIV vulnerability and risk.

Many respondents were found to be sexually active at an early age. One third of the respondents reported having had sex ever, of whom around 60% were in the age group of 11 to 15 years. Data on sexual practices disaggregated by gender and age show that a significantly higher proportion of females had sex compared to males, and that this variation increased with age. In the age group of 14 to 16 years, 77% of females had ever had sex compared to 30% males, while in the age group of 17 to 19 years, 95% of the females had ever had sex compared to 53% males. Besides, male glue sniffers were more likely to have sex than male non-glue sniffers.

The intersection of drug use and sex work was found to be large while the overall level of condom use low, putting street children at high risk of HIV transmission. A larger proportion of male glue sniffers reported having sex with a female sex worker in their last sex act than male non-glue sniffers – 55% of male glue sniffers compared to 38% male non-glue sniffers. And, overall condom use among glue sniffers was much lower – 31% of male glue sniffers reported using a condom during their last sex, while the corresponding figure for male non-glue sniffers was 46%. A large proportion of female glue sniffers (64%) reported selling sex to clients.

Levels of knowledge about symptoms and transmission of sexually transmitted diseases (STD) were found to be low among the respondents. Less than half of the respondents, who had heard about STD, could identify common symptoms of gonorrhoea, for instance. When asked about ways of transmission of STD, 19% of the respondents, who had heard about STD, identified sex between men as one of the ways of transmission. Glue sniffers were less likely to seek professional medical assistance when they had a health problem. They were more likely to do nothing about the problem or opt for self medication.

All of these factors – glue sniffing and other drug use, risky sexual practices, and low levels of knowledge of HIV – highlight the risk and vulnerability of the street children and adolescents to HIV transmission and the need to intervene early. Interventions to protect them need to be put in place.

Analyses were carried out separately to isolate the possible factors affecting glue sniffing, drug use, sex practices and condom use patterns of the respondents. Having accounted for the factor that sleeping on the streets at night made the respondents more vulnerable to all kinds of risks, multivariate regression analyses revealed that glue sniffing and use of other drugs do significantly contribute to risky sexual practices after controlling for other possible confounders. The respondents who slept at night on the streets were twice as more likely to be currently using drugs other than glue, whereas current glue sniffers were five times more likely to be using other drugs (currently) in combination with glue. Respondents, who were currently using glue only, were three times more likely to have had sex (ever), while respondents who were currently using glue along with other drugs were four times more likely to have had sex. And these two factors (use of glue only as well as combination of drugs with glue) were found to be statistically more significant than sleeping on the streets at night. In terms of risky sex practices (defined as sex with a client/female sex worker/men who have sex with men), it was found that respondents who

were currently using drugs other than glue were 3.5 times more likely to have had risky sex while respondents who were currently using glue along with other drugs were 4.7 times more likely to have had risky sex. Although we were unable to determine in this study the predictive value of glue sniffing for transitioning into injecting drug use or to compare the risks of solvent abusers with those who do not sniff glue for acquiring HIV, it seems that glue sniffing is one of several early “alerts” and high risk indicators, that should be used programmatically as a signal and entry point for early preventive interventions. A major thrust of such initiatives should be educating the children and adolescents to make them aware of the potential risks and health hazards, and empowering and enabling them to engage in safer practices at an early stage before children have transitioned to injecting drug use.

Based on the findings of this survey, four broad areas of interventions could be initiated in the short to medium term, integrating activities within existing programmes that could effectively reach street children or seeking new innovative solutions. These are:

- Community mobilization and working with families of the solvent users;
- Shelters for street children with interventions targeting solvent users and outreach through peers;
- Information and education of the general population;
- Targeted interventions for HIV prevention among street children.

To make a real and sustained difference to the conditions of street children, a multi-sector approach would be needed to tackle the many interlinked issues. Further analyses and operational research are also required to better understand the deeper implications and nature of the problem of solvent/drug use among under-aged population.

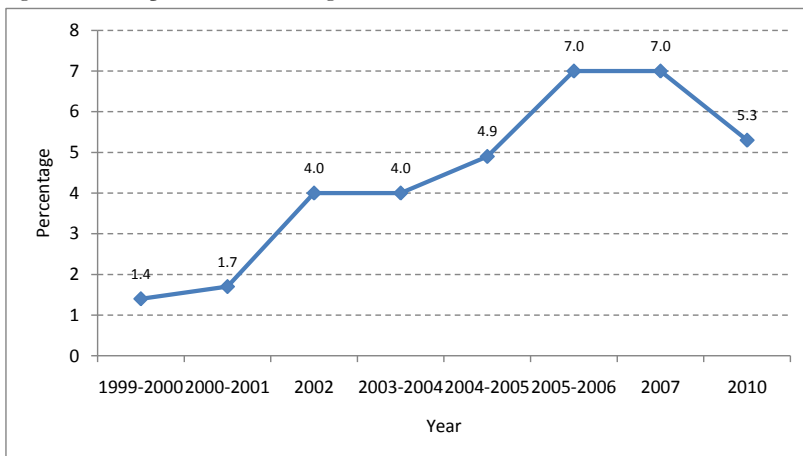
1. Background and introduction

1.1 HIV among injecting drug users

Bangladesh has been successful to date in controlling the spread of HIV in the general population, with a prevalence of less than 0.1%. The main reason for this low prevalence is the early and sustained HIV prevention programmes targeting high risk groups backed by a state-of-the-art surveillance system. Another contributing protective factor is the high rates of male circumcision. There is, however, a concentrated HIV epidemic among injecting drug users (IDU), primarily due to sharing of unclean syringes and needles. As a result, the rate of new infections is still on the rise in Bangladesh.

The estimated number of IDU in Bangladesh ranges between 20,000 and 40,000 with approximately 7,400 residing in Dhaka. Although the overall prevalence of HIV was 1.2% among IDU in 2007/08, there is a concentrated epidemic among male IDU in Dhaka. The prevalence of HIV in this cluster increased from 4% in 2002 to 7% in 2007/08, which fell slightly in 2010 to 5.3% (Government of Bangladesh 2011) as shown in figure 1.

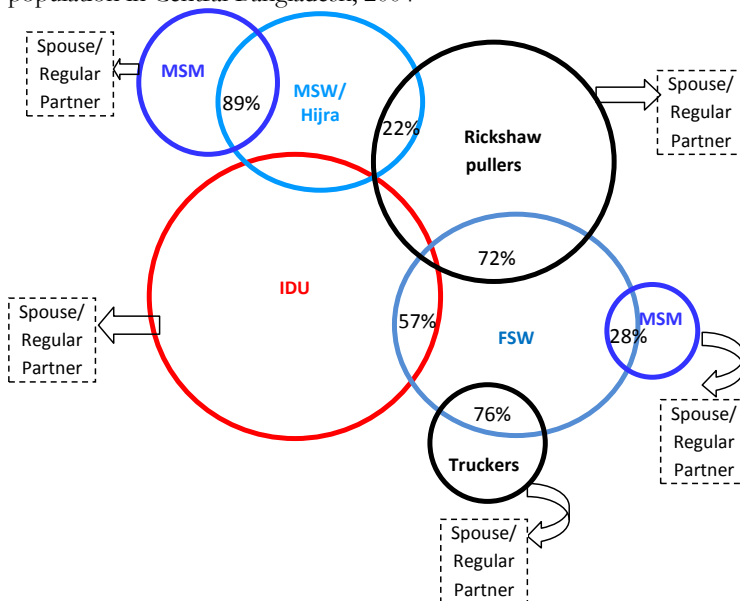
Figure 1: HIV prevalence among male IDU in Dhaka, 1999 to 2010



The following factors associated with IDU, increases the risk of transmission of HIV infection (The World Bank and UNAIDS 2009):

- Sharing of needles and syringes: Declining trends are observed – the rate of borrowing needles decreased from 65% in 2002 to 55% in 2006/07 and the rate of lending fell from 90% to 60% over the same period. A four-year cohort study on male IDU in Dhaka revealed that the incidence of hepatitis C virus is declining (22% in 1999/00 to 12% in 2007), which suggests adoption of safer injecting practices or rising immunity of the cohort. However, the rates of sharing needles and syringes are still high, putting IDU at risk, especially when injecting drugs and unprotected sex intersect.
- Low condom use among IDU and intersection with other high risk practices: buying sex from sex workers and having female sex partners without using condoms are common among male IDU. In 2006/07 in Dhaka, 66% of the male IDU bought sex from female sex worker and 41% used condom during last sex with an FSW. Only 26% of IDU reported consistent use of condoms. The intersection between injecting drug use and sex work and the increased risk for HIV transmission among vulnerable groups is shown in figure 2, including the risk of transmission to their spouses and partners.

Figure 2: Potential HIV transmission routes from high risk groups to the general population in Central Bangladesh, 2004



NOTE: Adapted by authors from ICDDR,B: Centre for Health and Population Research, 2004a, Annual Report: 2003, ICDDR,B, Dhaka, page 99

- Lack of knowledge and awareness: People aged 15 to 49, account for approximately one-fifth of the total population of Bangladesh². Although the estimated HIV prevalence in this age group is negligible, a national survey in 2008 found that they lack knowledge and awareness about HIV and that many are engaged in risky sexual practices while having limited access to reproductive health information and services. A majority of the people surveyed (90%) had heard about HIV/AIDS but their level of knowledge of the disease was low. Only 38% of the people surveyed could correctly identify two or more routes of HIV transmission and only 40% could identify two or more routes of prevention. A national survey of youth found that almost 20% of unmarried males had premarital sex and one in three of them had their last sex with a sex worker. Around 10% married males reported having sex outside of marriage, half of whom had their last sex with a sex worker (The World Bank and UNAIDS 2009).
- Other socioeconomic factors: The knowledge about HIV transmission in Bangladesh (2004) showed significant difference related to wealth, gender, education and rural versus urban location (Haacker and Claeson 2009). The lowest awareness was found among uneducated women in rural Bangladesh (20%) compared to educated urban males (78%) (Gwatkin et. al. 2007). Homeless IDU have been shown to be more than five times as likely to be HIV positive as IDU living at a fixed address (The World Bank and UNAIDS 2009). Besides, IDU from HIV epidemic neighbourhood in Dhaka (in comparison with IDU living in the rest of Dhaka) were less educated, fewer were currently married, and had lower average income.

In conclusion, although HIV prevalence remains low among the general population in Bangladesh, vulnerability and risk remain high among young people, especially those injecting drugs, buying and selling sex or both. Several factors contribute to vulnerability and risk; this study aims to explore some of those risky practices among children and adolescents in urban Bangladesh with a focus on street children, and early determinants of their drug use pattern.

² Total population of Bangladesh was 162 million in 2009 (World Development Indicators, The World Bank)

1.2 Why is use of solvents a concern?

Most drug users (both injecting and non-injecting) in Bangladesh are young people, and as data in other countries of the region has shown, the pathway to injecting drug use starts with early initiation into drugs. Media reports from 2009 show that inhalation of glue-type solvent is a growing problem among teenagers in Dhaka and other urban slums in Bangladesh.

Government statistics estimated the number of street children in Bangladesh to be around 380,000 in 2004 (50.8% in the age-group of 11 to 19 years) with 55% of these children residing in Dhaka (Islam 2004). Media reports indicate that *dandy* is most common among drug users residing in the streets of Dhaka. *Dandy* is vapour of a solvent that is used for gluing rubber or leather items. Other commonly used drugs are *jhakki* and cannabis. *Jhakki* is a cocktail of drugs such as eunocin (nitrazepam), seduxen (diazepam) and phenergan (promethazine) (The Daily Star 2009).

Solvent abuse is defined as the deliberate inhalation of gases, chemical fumes or vapours for mind-altering and recreational purposes in order to get a “high” similar to intoxication produced by alcohol (UNODC 2004). Solvents are chemicals that change from liquid to gases or vapours at ordinary room temperatures. Solvents commonly inhaled include adhesives such as glues, correcting fluids and thinners, hydrocarbons (such as those found in cigarette lighter refills), aerosol propellants, halocarbon fire extinguishers and gases (UNODC 2004).

The effects of inhalants such as adhesive solvents can be an alcohol-like intoxication and/or intense euphoria as well as hallucination. Some inhalant users are injured due to the harmful effects of the solvents, or due to other chemicals used in the products that they are inhaling. As with any recreational drug, users can also be injured/affected due to dangerous behaviour while they are intoxicated. Serious cardiac, pulmonary, hepatic, neurological and renal complications may develop, as well as sudden death from inhaling solvents (Crowe, Howse and Henry 2000). Cannabis gives the effect of euphoria at first and then calmness. Immediate effects of cannabis are feelings of well being, relaxation, loss of inhibitions, loss of motor coordination and loss of concentration. There may be increased pulse and heart rate, redness of the eyes, and increased appetite. It is believed that large quantities can cause panic, hallucinations, restlessness and confusion. Regular use of cannabis over the long run can increase chances of

dependency, impairment of memory and concentration. It may also worsen mental problems such as schizophrenia (WHO 2000).

In the developed world, inhalation of solvents for recreational purposes has been a long standing problem. Inhalant use is among the most prevalent forms of substance abuse in Mexico, Colombia and Japan (Weir 2001). In South Asia, however, this is an emerging issue. Though the exact number of children addicted to glue sniffing in Asia is not known, it has been identified as a common problem among street children in Thailand, Indonesia, Cambodia, Malaysia, Pakistan, India and Philippines. The prevalence and public health effects of solvent abuse are not well known and there is inadequate local knowledge of this phenomenon.

Solvents can be inhaled through the nose or mouth in many ways such as (UNODC 2004):

- Sniffing or snorting from containers;
- Bagging – sniffing or breathing in fumes from substances sprayed or deposited inside a plastic or paper bag;
- Huffing from a solvent soaked rag;
- Spraying aerosols directly into the nose or mouth.

Glue sniffing among street children is common due to three main factors: it is relatively cheap; availability is easy and legal; and the feeling of “high” (similar to alcohol intoxication) happens very quickly (UNODC 2004, ACRW 2002). Drug use, particularly sniffing glue is one of the most common coping mechanisms among street children. It is perceived as a cheaper and safer alternative to intravenous drug use in many places of the world. Glue sniffers have a high tendency to switch to using other drugs (both injecting and non-injecting).

There is a lot of literature that substantiate a relationship between abuse of solvents and injecting drug use, including the transition from solvent abuse to injecting drug use and vice versa. A study of a random sample of 9,259 respondents of 12 years and over in the conterminous United States, found that those using inhalants were an estimated 45.1 times more likely to have injected drugs (Schütz, Chilcoat and Anthony 1994). Dinwiddie et. al. found that IDU with a history of solvent use were more likely to be diagnosed with alcoholism and antisocial personality disorder than IDU without a history of solvent use. Even allowing for these coexisting psychiatric disorders, a reported history of solvent use increased the likelihood of also reporting injecting drugs by a factor of 3.2, indicating individuals at high

risk for injecting drugs, and youths who have used solvents should be considered at high risk for severe drug use, including injecting drugs (Dinwiddie, Reich and Cloninger 1991). Storr et.al. showed that youth who used inhalants prior to age 14 were twice as likely to initiate opiate use, as compared to those who had never tried and that the use of inhalants is an early marker of vulnerability for future involvement with illicit drug use such as heroin (Storr, Westergaard and Anthony 2005).

There is also ample evidence that show the linkage of drug use to increased vulnerability to sexually transmitted diseases including HIV/AIDS (US Department of Health and Human Services 2003, WHO 2005). Since there is already a concentrated HIV epidemic amongst IDU in Bangladesh, inhalant users are at greater risk of contracting the infection through their associated risky practices, both through sexual transmission and/or by shifting to injecting drugs.

1.3 HIV prevention programmes for drug users in Bangladesh

There is no intervention for prevention of HIV in Bangladesh specifically targeting children and adolescents residing in urban slums who use drugs (in particular solvent users), except for the targeted interventions for IDU and female sex workers that might include them. The national response to HIV in Bangladesh focus on high risk groups which include sex workers and their clients, men who have sex with men and transgender, and IDU. The national programme also includes awareness raising activities for the general population. Between 2004 and 2010, financing for HIV in Bangladesh totalled around USD 142 million³. Targeted intervention includes provision for counselling, STI treatment and management, distribution of condoms and needles and syringes, behaviour change communication and voluntary counselling and testing. Anti retroviral therapy is provided to a small fraction of HIV positive patients through non-governmental organisations (NGO). National AIDS/STD Programme (NASP) of the Government of Bangladesh (GOB) is the agency leading the national response. For interventions for the youth, Bangladesh received

³ This figure includes fund from the main financiers (The World Bank and UNAIDS 2009): Global Fund for AIDS, TB and Malaria (GFATM) round 2 (USD 19.7million) and round 6 (USD 40 million) amounting to USD 59.7 million; Health, Nutrition and Population Sector Program (co-financed by GOB, World Bank, DFID, EC, EKN, CIDA, Sida, KfW, UNFPA) USD 22 million; WB and DFID co-financed HIV/AIDS Prevention Project (2000-2007) USD 26 million; USAID USD 13 million; GTZ (2006-2011) USD 5.7 million; UN USD 3.2 million; ADB USD 10 million; EKN USD 0.155 million; AusAID USD 1.2 million; Sida USD 0.58 million.

USD 19.6 million (approximately) in 2004 from Round 2 of the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) for prevention of HIV infection in young people aged 15–24 years targeting a population of around 40 million youths. The aim was to provide HIV prevention information, skills and services to young people aged 15-24 years old.

In July 2010, the United Nations Office on Drugs and Crimes (UNODC) piloted opioid substitution therapy (OST) for 150 IDU in Dhaka. Preliminary feedback from the pilot show positive response and high demand for OST. Based on the findings of the impact evaluation of the pilot intervention, there are plans to scale-up OST.

1.4 Objective of the study

The objective of this study was to review and assess the nature of drug use, including glue sniffing, among children and adolescents living in the streets of urban Bangladesh; understand the extent of the problem; document the side-effects of inhaling solvents; assess to what extent these glue sniffing children are more vulnerable to HIV than non-glue sniffing children; and review lessons from intervention programmes implemented elsewhere in the region. The populations of primary concern for this study were children and adolescents aged 11 to 19 years residing in streets (or slums) of Dhaka and Chittagong, the two largest metropolises in Bangladesh.

The specific objectives were to:

- Assess the extent and nature of drug use among street children: arrive at a list of the most commonly used substances (including glue-type solvents, cough mixtures, pharmaceuticals, etc.); ascertain the reasons for using drugs; assess the extent to which the drug users are engaged in unsafe sexual practices; examine the level of knowledge/awareness regarding the side effects of these drugs as well as sexually transmitted diseases; and identify factors that make these drug using children more vulnerable to HIV.
- Suggest recommendations for action, based on the findings and on lessons learned from relevant intervention programmes.

It is expected that findings from this survey will inform policy and future HIV prevention programmes and interventions in Bangladesh. This would reduce vulnerability and risk for HIV at an early stage of childhood and adolescence, and might also prevent the many other risks associated with early initiation to drugs, especially among street children.

2. Methodology

2.1 Sampling design and location

Surveys involving marginalized and vulnerable population like street children are usually based on convenience or purposive (i.e. non-probability) sampling (Faugier and Sargeant 1997). This procedure is an acceptable method of gathering data in situations where it is difficult to construct a sampling frame that contains a complete list of all individuals, out of which selection of the desired sample is done applying principles of random method. Experience of social researchers indicates that mapping out the places where street children usually hang out and selecting respondents from those areas provide acceptable estimates (Bailey 1988, Ennew 1994).

As the principal challenge for sampling children and adolescents living on the streets is in locating them, this survey used a two-stage sampling scheme built on time-location sampling (TLS) (Nada and Suliman 2010) procedure to select a cross-sectional sample of street children and adolescents. The procedures entailed:

- a) using key informants and field observation to create a sampling frame of locations (hot-spots) as primary sampling units (PSUs) in Dhaka and Chittagong metropolitan areas where they usually gather during the daytime;
- b) selecting a systematic sample of spots from the complete list to ensure adequate coverage of the cities; and
- c) randomly intercepting respondents in the selected locations to assess eligibility and conduct interviews. This randomized approach produced a rigorous, diverse, probability-based representative sample (Raymond et. al. 2007).

2.2 Sample size calculation

Government statistics, based on a survey by the Bangladesh Institute of Development Studies, estimated the number of street children in Bangladesh to be around 380,000 in 2004 — of whom 55% were in Dhaka city. Almost half of the street children (49.2%) were less than 10 years of age, while the rest were in the age group of 11-19 years. Of these, 74.3% were boys and 25.7% were girls (Islam 2004). Based on this estimate, the

total size of the target population for this survey (of age 11-19 years) was calculated as 193,040 in all the metropolitan cities.

The sample size was calculated using the following formula:

$$n = \frac{p(1-p) \times z^2}{e^2} \times d$$

where, n = sample size required

z = z-value for the required confidence level

p = estimated prevalence of characteristics in question

e = margin of admissible error

d = design effect

For this study, p is unknown and, therefore, 50% was considered to arrive at the largest sample size possible. To get an estimate of prevalence of glue sniffing among the street children with 95% confidence level and 5% admissible error and taking p as 50%, the sample size required was:

$$n = \frac{0.5(1-0.5) \times 1.96^2}{0.05^2} \times 1.5 = 576 \approx 600$$

As the primary sampling units were hot-spots around the metropolitan areas, which were usually in clusters, the design effect was taken as 1.5.

Out of this sample of 600 street children and adolescents, information from 400 was collected from Dhaka and the remaining 200 from Chittagong city.

2.3 Data collection and analysis

This survey was conducted in October 2010 in the two largest metropolitan cities in Bangladesh (where 80% of the urban population reside). Data was collected through on-the-street interviews with 640 children and adolescents of age 11 to 19 years in randomly selected hot-spots in Dhaka and Chittagong. In Dhaka, out of 75 spots, a systematic random sample of 35 hot-spots was selected and in Chittagong, 18 spots were selected out of 66. From each of the selected hotspots, interviewers counted the number of children available and randomly chose respondents after assessment of the age eligibility criterion as described below.

On reaching a selected hot-spot, the survey teams searched for children who fall in the age category of 11-19 years. If they found only one child in the target age group, then s/he was approached and interviewed. Most of the times, children were found in a number of groups in the hot-spots and members of the study team approached each of the groups individually. The interviewers randomly selected one child from each group to ask his/her age. Once the child was found to be within the target age group and provided their consent to be interviewed, the interviewer separated the child from the group and interviewed him/her. If the child was found to be outside the target age group, the next person was asked about his/her age and consent for interview. In this way, the survey team continued until the required number of samples was completed from that hot spot.

The research instrument was a pre-tested structured interviewer-administered questionnaire that was used to collect data on socio-demographic characteristics, ever use of psychoactive substances, and other risky behaviours including sexual activities.

The data was analyzed using STATA SE package version 10. Data analyses included descriptive (bi-variate) analysis and multivariate regression analysis to explore the factors affecting substance use among the street children, after controlling for potential confounding factors.

2.4 Definition of terms

Street children. In this study, street children and adolescents were defined as those either working on the streets or spending a large proportion of their time, including sleeping, on the street and partaking in street life. This is in line with UNICEF's concept of inadequately protected or supervised boys and girls for whom 'the street' has become home and/or their source of livelihood (Black 1993). The widely accepted set of definitions of UNICEF categorizes street children into:

- (a) children on the street, that is, those engaged in some kind of economic activity ranging from begging to vending who go back home at the end of the day and contribute to the family earnings. This group of children may be attending school and still retain a sense of belonging to their family but are candidates of permanent life on the streets given the economic fragility seen in their families and;

- (b) children of the street, that is, those who actually live on the street (or outside of a normal family environment). Family ties may exist but are tenuous and are maintained only casually or occasionally.

Hot-spots. Public places or sites where the street children either congregated or visited frequently or spent most of their daytime for earning or leisure. The most common hot-spots for the street children in Dhaka and Chittagong were market places, garbage disposal sites, railway junctions/stations, and bus and water terminals. This study used a comprehensive listing of such hot-spots in Dhaka and Chittagong as the sampling frame to select the target respondents.

Adhesive substance. The study collected information on drug use of street children in metropolitan areas of Dhaka and Chittagong with a special focus on abuse of adhesive solvents (commonly known as glue sniffing). Questions were asked on use of drugs and solvents including cigarette/*biri*, tobacco, pharmaceuticals (particularly antihistamines and sleeping pills), heroin, cannabis, hashish, and glue.

2.5 Ethical standards

Ethical standards for epidemiological research, particularly with under-aged population, were adhered to while conducting this survey. The procedures listed below were followed:

- written informed consent of the interviewee taken;
- names of respondents not recorded and a unique identity number attached instead;
- data on nationality and religion not collected;
- confidentiality of collected information ensured by not attaching names of the respondents to the data and not using the data for any other purpose apart from this study;
- respondents' personal information not included in data files;
- results presented in aggregate form, without identifying any individual.

2.6 Review process of the report

An inception note for the study was prepared outlining the overall objectives and structure of the report. This was shared with a few World Bank colleagues for their comments including Kees Kostermans, Sameh El-Saharty, Maitreyi Das, Robert Oelrichs and David Wilson. The inception note was also shared with the National AIDS/STD Programme (NASP) of the Government of Bangladesh and their comments were taken into account when finalizing the survey instrument and sample size. Following the reviews, the inception note was cleared by Julie McLaughlin, Sector Manager for Health, Nutrition and Population, South Asia Region of the World Bank.

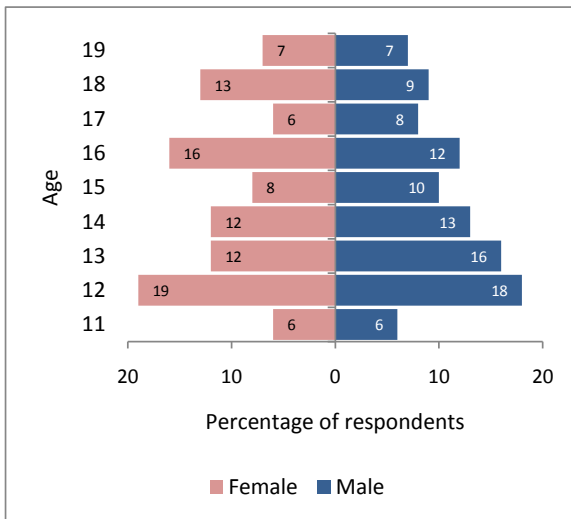
The draft report of this survey was shared with the World Bank colleagues, for their comments, including Kees Kostermans, Sameh El-Saharty, Maitreyi Das, Robert Oelrichs, Jessica Leno and David Wilson. The draft report was also shared with NASP, UNAIDS, and the International Centre for Diarrhoeal Diseases and Research Bangladesh (ICDDR,B). The draft report was also reviewed at an internal World Bank consultation, chaired by Michal Rutkowski. The review was organized to discuss the methodology and findings of the study report and the potential implications of the findings for World Bank supported projects and programmes in the social sector. Based on the discussions during the internal review and comments received from the reviewers, the report was finalized.

3. Survey findings

3.1 Demographic background

General overview. A random sample of 640 street children and adolescents in total was interviewed in the urban areas of Dhaka and Chittagong – 421 in Dhaka and 219 in Chittagong. Of the total, 87% (557) were male and 13% (83) female and this spread was the same in both the cities. The age distribution of the respondents is shown in figure 3. During the time of this survey, most of the children and adolescents were never married (94%). 3% were currently married, of whom 86% were in the age group of 17–19 years.

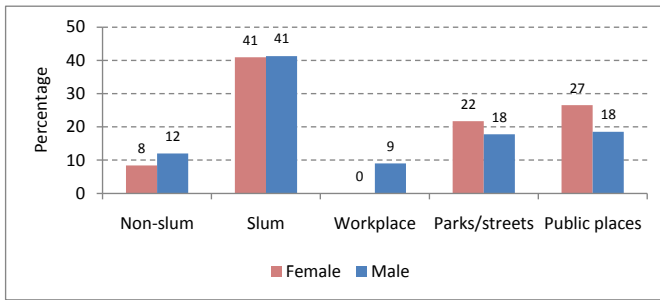
Figure 3: Age distribution of the respondents by gender



Analysis regarding educational attainment revealed that three-quarters of the respondents attended some schooling but the number of years completed in school was very low. 39% of the respondents completed between 2 and 3 years in school. Regarding their family, it was found that roughly half of the respondents (49%) lived with their families and another one quarter (26%) with friends. Around 14% of the respondents reported living on their own and 7% with relatives. Most of the street children and adolescents reported that their parents lived together. Additional information on parents showed that 13% of the respondents’ fathers used drugs. No one’s mothers were reported to have used any kind of drug.

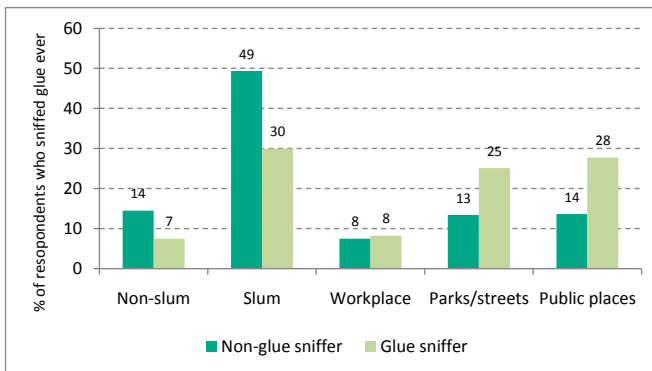
Slums were the most common location identified as the place where the respondents slept at night, followed by public places and parks/streets. Figure 4 below shows the places where the male and female respondents reported sleeping at night. Public places included railway station, bus terminal, water terminal, market, and religious places (i.e. mosque, temple, church, etc.). More females reported sleeping in parks/streets and public places compared to the males. 22% of the females slept in parks/streets compared to 18% males, while 27% of females slept in public places compared to 18% of males.

Figure 4: Places where the respondents slept at night – male compared to female



Respondents who slept in parks/streets and public places (which included railway station, bus terminal, water terminal, market, and religious places) were more likely to sniff glue, than the respondents who slept in households. 25% of the glue sniffers slept in parks/streets compared to 13% non-glue sniffers; while 28% of the glue sniffers slept in public places compared to 14% of the non-glue sniffers.

Figure 5: Place of sleeping at night by glue sniffing practices



Although most of the respondents did not report sleeping on the streets at night, for the purpose of this study they still fall within the definition of “street” children and adolescents (as described in section 2) as they spent most of their time on the streets. Lack of food appeared to be one of the most compelling reasons for the respondents to be on the streets with almost three-quarter of the respondents identifying this as the cause. Other reasons included seeking employment (51%), avoiding/overcoming domestic violence (39%) and influence of peer (24%).

Occupation of respondents and problems faced by them on the streets. Almost all of the respondents (98%) were engaged in income generating activities and the most common work was rag picking with 55% of the respondents being rag pickers. More than one third of the respondents⁴ were working in garage/street side restaurant; selling small things like lemon, popcorn, etc.; and working as porters. Begging was not found to be significant among the survey population with only 7% who reported being beggars. Sex work was identified by 5% of the total respondents as their occupation, all of whom were females.

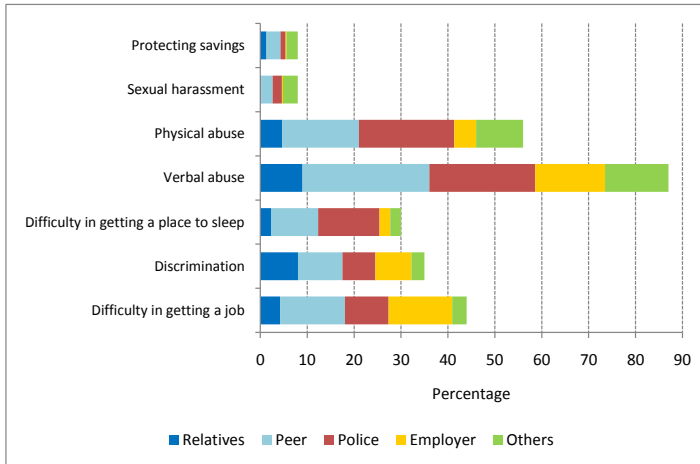
Based on the data reported by the respondents on their hours of work and earnings, average working hours on the streets was calculated to be 8.8 hours per day and the average income per month Tk. 4,000. The data on average income is consistent with the very low levels of schooling of the respondents and the fact that most of them were very young (about 60% of the respondents were in the age range of 11 to 16 years). For comparability, gross nation income and average income in urban areas are provided. Gross national income per capita in 2009 (PPP adjusted) was Tk. 8,912 (The World Bank) while in 2005 average income per earner in urban area was Tk. 6,975 (Bangladesh Bureau of Statistics 2005). In comparison to these figures, the average income of the respondents was low. It appears that their young age and lack of education defy them of the ability to negotiate and make them vulnerable to all sorts of problems and repression as discussed below.

Abuse (both verbal and physical) was stated as the biggest problem/challenge faced by the respondents on the streets. Other problems identified are depicted in figure 6 (multiple responses were allowed for this question). As can be seen from the figure, peer and police

⁴ For this question, multiple responses were allowed and the breakdown of the data is – 12% were working in garage, 12% were porters, 11% working in street-side shops, and 10% selling small items on the streets.

created majority of the problems. Other problems included discrimination; sexual harassment; and difficulty in getting a job, getting a place to sleep and protecting savings.

Figure 6: Challenges/problems faced by the respondents on the street



3.2 Drug use and its effects

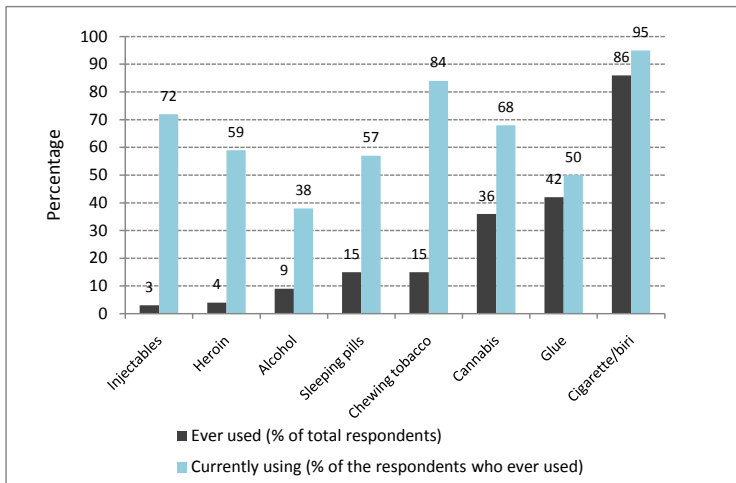
Pattern of drug use. Cigarette/*biri*⁵ smoking was common among the surveyed street children and adolescents with more than 80% of the respondents reporting smoking a cigarette/*biri* ever. Almost all of the respondents, who ever smoked a cigarette/*biri*, continued with the habit. Other common substances used by the respondents were glue and cannabis. As shown in figure 7, almost half of the respondents sniffed glue (ever), while a third reported using cannabis (ever). Of the people who sniffed glue (ever), half of them were current users, while almost two-thirds of the respondents who used cannabis (ever) have continued using it.

Consumption of pharmaceuticals (mostly sleeping pills and in some cases antihistamines) and chewing tobacco were quite prevalent among the survey population with 15% of the respondents reporting consumption of these substances (ever). Current use of sleeping pills and chewing tobacco was markedly high. Although the proportion of respondents who consumed

⁵ *Biri* is a cheap form of cigarette which is very common in South Asia. It is very thin, with tobacco flake wrapped in a leaf/thin paper tied with a string at one end

alcohol and heroin (ever) and injected drugs were low, the data indicates persistent use of these substances, either due to lack of willingness to quit or high relapse rates. This persistent use of heroin and injectables is also consistent with the finding that only 46% of the current glue sniffers tried to quit their habit of sniffing glue by staying away from friends (65% of current glue sniffers tried this), changing place (25%) and consulting a doctor (17%), but were not successful and continued with it. The respondents who currently sniffed glue recommended ways that could dissuade them from addiction which have been summarized in the section on recommendations.

Figure 7: Commonly used drugs/substances by the respondents



Glue sniffing – patterns, expenditure, feelings. Glue sniffers were found to frequently use other substances in addition to glue. A large proportion of the current glue sniffers used cannabis (59%). Other substances used by the current glue sniffers were sleeping pills (19%), alcohol (8%), heroin/cocaine (7%), injectables (5%) and phensidyl⁶ (4%). Heroin is not injected in Bangladesh, but burnt and its vapour inhaled. Injectables included mixture of pethidine⁷ and/or different types of diazepam (in injection form).

⁶ Wikipedia: phensidyl is a cough linctus, a liquid preparation like syrup (which contains glucose in high concentration that used for better taste). Its active ingredients include codeine phosphate. It is often used as a recreational narcotic and/or anti-depressant. The syrup is illegal in Bangladesh.

⁷ Wikipedia: pethidine is a fast-acting opioid analgesic drug.

Street children, who sniffed glue (ever), were more likely to use other drugs than non-glue sniffers. 76% of the glue sniffers used other drugs (phensidyl, pharmaceuticals, heroin, cannabis and injectables) compared to 21% of the non-glue sniffers.

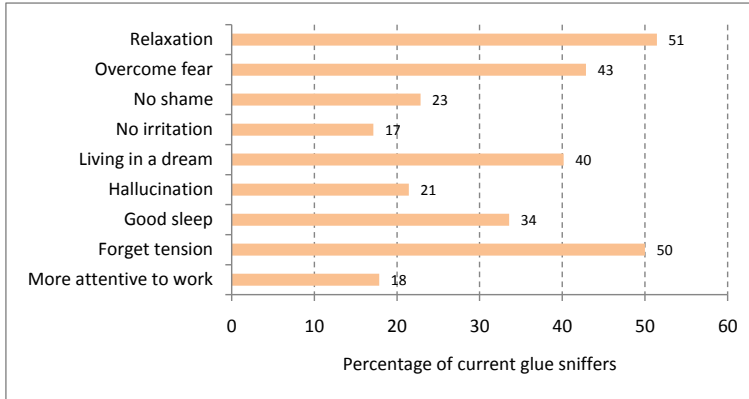
A large proportion (84%) of the total respondents, had heard about glue sniffing, mostly from friends. Of the people who had heard about glue sniffing, roughly half sniffed glue (ever) and of them around 52% currently sniffed glue. Most of the glue sniffers inhaled glue by bagging (i.e., sniffing fumes from solvents deposited inside a plastic bag). Most commonly used solvent was glue (95% of current glue sniffers used this). Thinners and balms were also used. They reported that they mostly bought these solvents from hardware shops. Some of them bought it from groceries and also got it from friends. The respondents were asked about the duration of their habit of glue sniffing. Based on the data reported by them, average duration of the habit of sniffing glue was calculated as 18.6 months.

Peer pressure was the most common reason stated for sniffing glue with more than 70% of the current glue sniffers identifying this as the reason. Other reasons included (expressed as a percentage of current glue sniffers): for pleasure (50%); coping with tension (47%); forgetting family problems (28%); out of curiosity (25%); and out of frustration (19%). Multiple responses were allowed for this question.

About half of the respondents, who were current glue sniffers, reported spending between Tk. 40 and 60 per day to buy glue. Based on the data reported by all current glue sniffers, average monthly expenditure on glue was calculated as Tk. 1,120 per month. Most of the respondents reported paying for glue from their own income (97% of current glue sniffers). Compared to the average monthly earning of Tk. 4,000, the expenditure on glue is significant, accounting for almost a third of their earnings.

90% of the current glue sniffers reported sniffing glue in a group. The primary reason for this was to share the solvent. Other reasons included networking, sharing life experiences and avoiding resistance by others. Relaxation, forgetting tension, overcoming fear and living in a dream were common feelings reported by them after sniffing glue. Figure 8 provides an overview of the feelings after sniffing glue as reported by the respondents (multiple responses were allowed for this question). Based on the data collected on the duration of time that these feelings lasted for, the average was calculated as 1.5 hours.

Figure 8: Feelings of sniffing glue as reported by the respondents



Current glue sniffers were asked about the effects of glue sniffing on their health. General weakness and dizziness were the most common effects experienced by the current glue sniffers as depicted in table 1 (multiple responses were allowed for this question). These were not diagnosed effects, but as felt by the glue sniffers and it is their assumption that these health effects were due to sniffing glue. 37% of the current glue sniffers reported also facing other problems such as self destruction, arrest by police and getting into a fight after sniffing glue.

Table 1: Health effects of glue sniffing

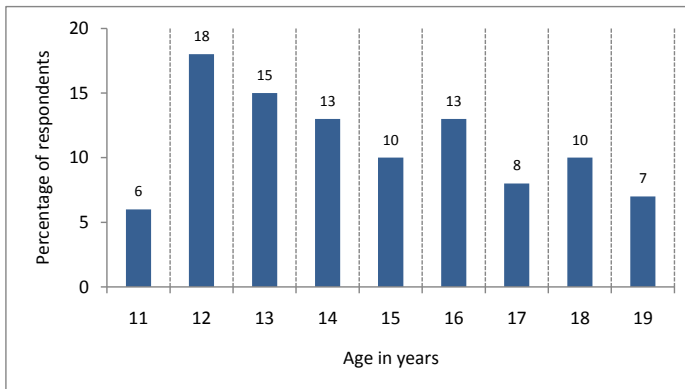
Effect	% of current glue sniffers
Weakness	52
Dizziness	51
Blurry vision	46
Slurred speech	43
Breathing difficulty	26
Hot flush	22
Nausea	20
Light headed feeling	19
Loss of appetite	18
Wheezing	16

3.3 Other risky behaviour besides drug use

The respondents were asked questions relating to three risky practices that increase chance of HIV transmission – unsafe sex, injecting drugs and selling blood. As indicated earlier, drug use was found to be common among street children and adolescents but injecting drugs and selling blood were found to be less frequent. Although prevalence of injecting drug use was low, of the respondents who reported injecting drugs, a large majority were in the age group of 17 to 19 years and none in the age group of 11 to 13 years; while glue sniffing was found to be more prevalent in the younger age group than the older ages. This finding lends support to the drug transition hypothesis – the pathway to injecting drug use starts with early initiation into drugs – although further research and analysis are needed to prove this hypothesis of causality.

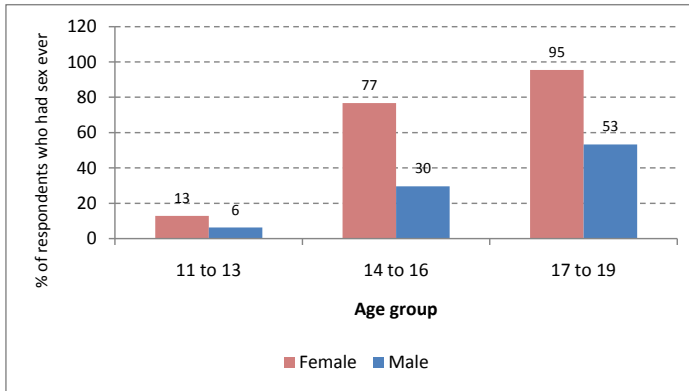
Sexual practices. One third of the respondents in Dhaka and Chittagong reported having had sex (ever), of whom around 60% were in the age group of 11 to 15 years, as depicted in figure 9.

Figure 9: Respondents who have ever had sex, by age



Gender disaggregated data revealed that more females reported having sex (ever) than males, as shown in figure 10.

Figure 10: Respondents who have ever had sex, by age-group and gender



First sex at young age is risky for two main reasons. First, it has been found that young people who had sex before the age of 13 years had significantly lower levels of knowledge about HIV and were more likely to report STIs (The World Bank and UNAIDS 2009). High levels of STIs indicate unprotected sexual practices which increase the risk of contracting HIV. Second, the proportion of MSM and FSWs reporting first sex by the age of 15 years is markedly higher than among the general population youth (The World Bank and UNAIDS 2009). This was found also in this survey with 23% of the females in the age group of 14 to 16 years and 12% in the age group of 17 to 19 years, stating sex work as their profession.

A review of the literature show that sex workers who had first sex before the age of 13 years were at higher risk of getting HIV than those who had first sex at a later age. This is because they are more likely to (The World Bank and UNAIDS 2009):

- not have sound knowledge about HIV;
- report more STIs;
- sell sex more often and to more clients;
- have experienced forced sex more than others;
- have group sex;
- not use condoms; and
- use drugs (other than alcohol).

This pattern of behaviour – overlap with sex workers, low condom use, use of drugs, low levels of HIV knowledge – was observed amongst the respondents of this survey. Figures 11 and 12 depict the sexual behaviours

of male and female respondents in which data has been further disaggregated between the current glue sniffers and non-glue sniffers.

Overall, respondents who had sex were mostly females. Compared to all the respondents, a higher proportion of current glue sniffers reported having had sex ever (48% of current male glue sniffers compared to 23% of the total male respondents, and 92% of the current female glue sniffers compared to 60% of the total female respondents).

Intersection of drug use and unprotected sex and sex work.

About half of the males (irrespective of their drug use practices), reported that they have had sex (ever). In their last sex act, the most common sex partners were FSWs and girl friends. The proportion of male respondents who had sex with another male, in their last sex act, was 6%. Condom use among males was low with only a third of the total male respondents reporting condom use during their last sex act.

When data is disaggregated between the male glue sniffers and male non-glue sniffers, it is observed that a higher portion of male glue sniffers reported having sex than the male non-glue sniffers (45% compared to 34%). Moreover, more male glue sniffers reported having sex with an FSW in their last sex act than male non-glue sniffers – 55% of male glue sniffers compared to 38% of all male non-glue sniffers as shown in figure 11. And, overall condom use among glue sniffers was much lower – 46% of male non-glue sniffers reported using a condom during their last sex, while the corresponding figure for male glue sniffers was only 31%.

For the females (irrespective of their drug practices), it appears that many sold sex with almost 64% of both the female glue sniffers and non-glue sniffers reporting sex with client as shown in figure 12. Overall condom use among females was low although the female glue sniffers reported a higher rate of condom use – 73% of female glue sniffers reported using a condom in their last sex, compared to 14% of female non-glue sniffers.

Figure 11: Sexual practices among males – glue sniffers vs. non-glue sniffers

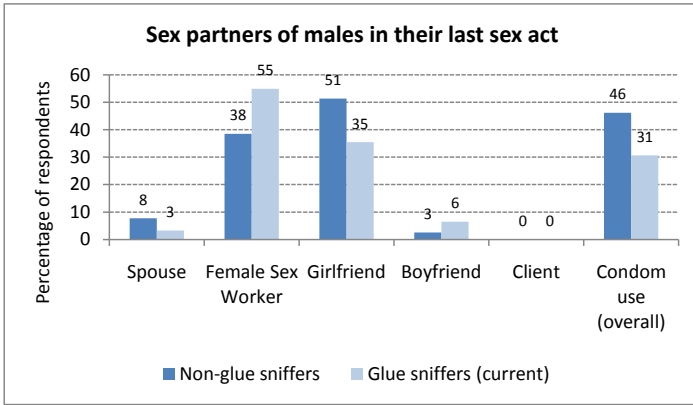
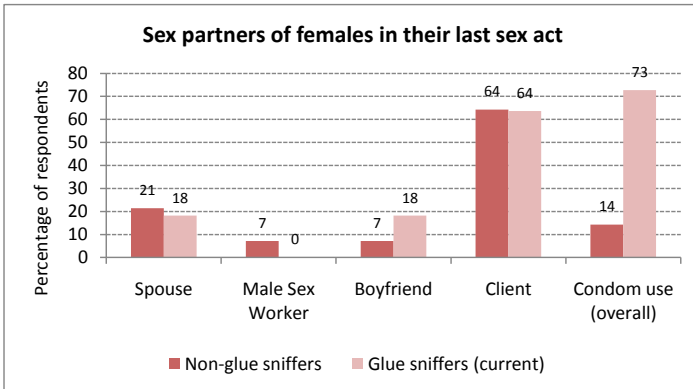


Figure 12: Sexual practices among females – glue sniffers vs. non-glue sniffers



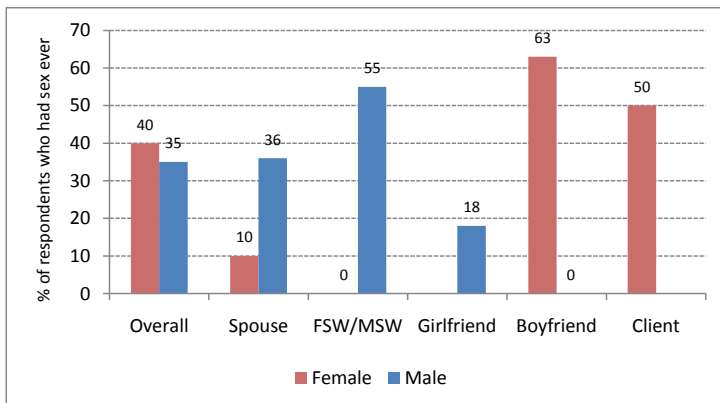
The average number of sex acts reported by female glue sniffers in the past one month was 14, which is quite high, compared to their male counterparts who on average had one sex act in the past one month. The data on average frequency of sex acts of females is also consistent with the data on the proportion of females who reported sex work as their profession – 23% of females in the age group of 14 to 16 years and 12% in the age group of 17 to 19 years. The high frequency of sex acts for females is also consistent with the finding that more females slept at night in park/streets and public places, compared to the males. The data on female glue sniffers, however, needs to be interpreted with caution since the number of female glue sniffers in this survey was very low (84 females out of the total 640 respondents).

Based on the data reported by the respondents (who have ever had sex) on their earnings from sex, the average earning from sex per month for female respondents was calculated as Tk. 1,514, while for female glue sniffers it is Tk. 2,500. The average number of sex in the past one month for female respondents has been calculated as 10 while for female glue sniffers, it is 14.

Given that 97% of current glue sniffers paid for the glue from their own income and average expenditure on glue has been calculated as Tk. 1,120 per month, for female glue sniffers the expenditure on glue accounts for almost 45% of their income from sex.

Low condom use. Only 36% of the respondents who had sex (ever) reported using a condom in their last sex act. As shown in figure 13, 35% of all male respondents who had sex (ever) reported using a condom in their last sex act, while the corresponding figure for females was 40%. Of the female respondents, who had sex with clients, only half of them reported using a condom during their last sex act. None of the males reported having sex with a client in their last sex act. In case of sex with male sex worker (MSW), none of the females who had sex with an MSW used a condom in their last sex act. Similarly low levels of condom use was found among males – of the male respondents who had sex with FSWs, only half of them (55%) reported using a condom. A higher proportion of female respondents (63%) who had sex with their boyfriend reported using a condom in their last sex act compared to the males who had sex with their girlfriend (18%). While none of the male respondents who had sex with their boyfriend used a condom during the last sex act.

Figure 13: Reported condom use by sex partner– male vs. female respondents



Data on condom use during the last sex act was disaggregated by gender and glue sniffing practices, as presented below in figures 14 and 15. In case of the male respondents, glue sniffers were less likely to use a condom than non-glue sniffers. For females, the scenario is different as female condoms are not used in Bangladesh. The graph in figure 15 shows the proportion of the male partners of the female respondents who used a condom.

Figure 14: Condom use by males during their last sex act

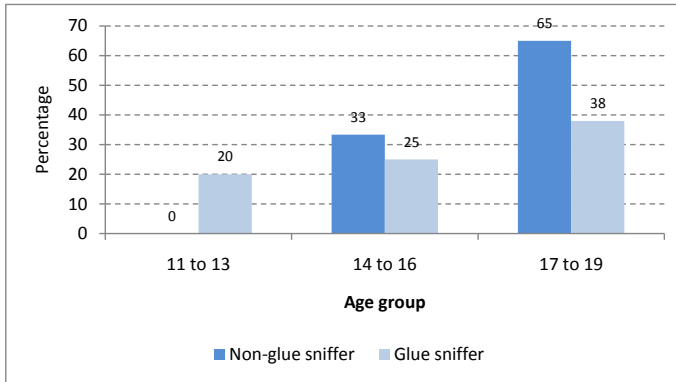
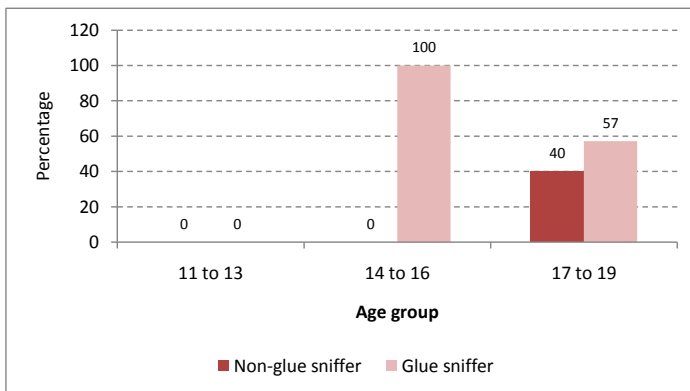


Figure 15: Condom use during the last sex act as reported by the females



During the survey the respondents, who used a condom, were asked the reasons for doing so. Two-thirds of the respondents said they did it to protect themselves from HIV. Roughly half of them used it to protect themselves from other diseases and to avoid pregnancy. The most common reasons for not using a condom, as stated by the respondents, were: they felt shy to get a condom, they felt that pleasure of sex is reduced when using a condom, and they did not having sufficient time to get a condom.

Table 2 provides an overview of the reasons for using and not using a condom (multiple responses were allowed for this question).

Table 2: Reasons for using and not using a condom, as stated by the respondents

Reasons for using a condom (% of people who had sex ever)	Reasons for not using a condom (% of people who had sex ever)
Protection from HIV (66%)	Feel shy to get a condom (34%)
Protection from other diseases (54%)	Reduced pleasure (28%)
Avoid pregnancy (53%)	Did not have time to get a condom (26%)
No other reason	Safe partner (15%)
	Partner/client does not like to use a condom (11%)
	Intimidated to get a condom as respondent under-aged (10%)

Respondents who used a condom bought it from either a pharmacy (41%) or a shop (16%). 26% said they got it from a sex worker and 10% from their sex partner while 21% got the condom from an NGO. This indicates that these children and adolescents do not have easy access to free condoms as most of them who reported using a condom had bought it. Low condom use is consistent with the fact that their income is limited and a high portion of their income (about a third) is spent on buying glue.

Lack of knowledge about STD. Only half of the respondents had heard about a sexually transmitted disease/infection (STD/STI). The respondents were asked to identify symptoms of STD and their responses are presented in Table 3 (multiple responses were allowed). The list included common symptoms of gonorrhoea, rectal infection, and syphilis. Levels of knowledge regarding the symptoms of STD were found to be very low as depicted in Table 3.

Table 3: Percentage of respondents who could identify STD/STI symptom

Symptom	Related STD/STI	Of the people who heard about STD/STI, % who identified the symptom
Sore or ulcer around penis/vagina	Syphilis	51%
Swollen lymph gland	Syphilis	10%
Burning sensation while urinating	Gonorrhoea	49%
Discharge from penis/vagina	Gonorrhoea	32%

Symptom	Related STD/STI	Of the people who heard about STD/STI, % who identified the symptom
Swollen testicles	Gonorrhoea	5%
Discharge from anus/ sore around the anus/ bleeding from the anus	Rectal infection	8%

Most of the respondents, who had heard about an STD/STI, heard it from their peers (85%), followed by NGO (40%) and television/radio (30%). This is an important finding that points to the critical role a peer can play in influencing the street children and adolescents. While designing any intervention for protection of these respondents, it appears that a peer-based approach would yield better results.

The survey respondents were also tested for their levels of knowledge about the way in which an STD/STI can be transmitted from one person to another. Their responses are presented in Table 4 (multiple responses were allowed for this question).

Table 4: Percentage of respondents who could identify a way of transmission of STD/STI

Method of transmission	Of the people who have heard about STD/STI, % who identified the method
Sex with female sex worker	76%
Sex between men	19%
Sex with a transgender	3%
Having sex without a condom	57%
Having sex with STD/STI infected person without a condom	19%
Sharing needles	29%
Taking blood from a HIV positive person	42%
Do not know	2%

About three quarters of the respondents who had heard about an STD/STI, stated having sex with an FSW as the most common way of transmission of the disease/infection. 19% and 3% identified sex between men and with a transgender (respectively) as possible ways of transmission. Other findings also indicate low levels of sound knowledge about transmission modes – only 19% of the respondents identified sex without a condom with an STD infected person, 29% sharing needles, and less than

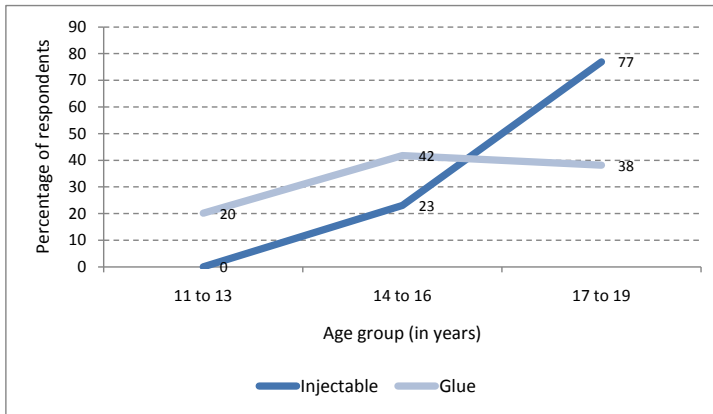
half identified taking blood from an HIV infected person as a way of transmitting an STD.

Other risks. A quarter of the respondents (92% females and 8% males), who have ever had sex, did it for money. Similar patterns were found among the current glue sniffers, with 23% of them reporting selling sex. Of the people who had sold sex for money, roughly a third used the money for buying drugs. Almost half of the respondents, who sold sex for money, also received something else in kind – 87% received food and 17% got drugs. This overlap between selling sex and drug use is in conformity with the evidence documented in other countries, which makes these children and adolescents more vulnerable to contracting HIV.

Selling blood was found not to be significant – 1% of the respondents reported selling blood (ever), of whom 3.6% were current glue sniffers.

Injecting drugs among street children and adolescents was found to be low (as discussed earlier in this chapter). 3% of the respondents (18 out of the total of 640) reported injecting drugs (ever), of whom a large portion (about 72%) were currently injecting drugs. Although the overall prevalence of injecting drug use is low, an intriguing finding is that injection use increased with the age of the respondent, while the prevalence of glue sniffing declined with age. Most of the current IDU (around 77%) were in the age range of 17 to 19 years, while 23% were in the age group of 14 to 16 years. None in the age group of 11 to 13 years reported injecting drugs. In figure 16, we have compared the pattern of current use of glue and injecting drugs, segregated by age. Respondents in the younger ages, 11 to 13 years, reported sniffing glue, but not injecting drugs. However, in the higher age group of 17 to 19 years, the proportion of current glue sniffers decreased while the proportion of respondents currently injecting drugs increased significantly. This finding lends support to the hypothesis of drug transitioning from solvent use in the earlier ages to injecting drug use as they grow older.

Figure 16: Drug transition from solvent use to injection use

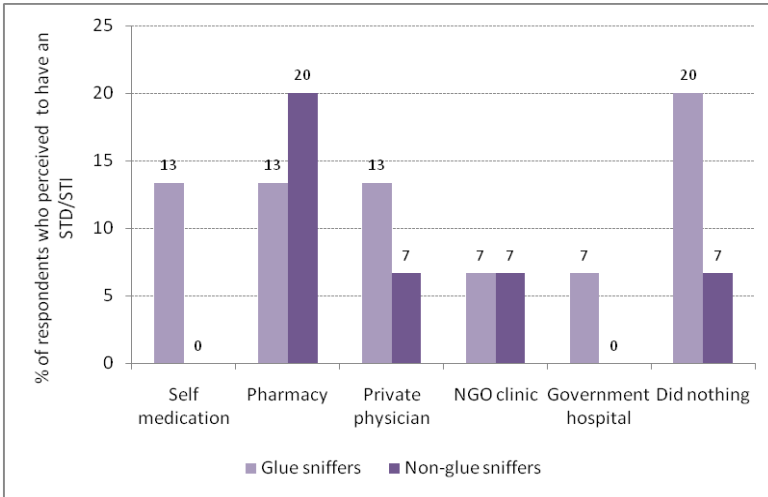


Another area of concern is that needle sharing was found to be quite prevalent with 56% of the respondents who injected drugs, sharing needles every day. The overlap between glue sniffing and injecting drug use was found to be less with 5% of current glue sniffers injecting drugs.

3.4 Care seeking behaviour

Evaluation of the health status of the respondents showed that, of the respondents who had heard about an STD/STI, 7% complained of having an STD/STI. Among those who reported having an STD/STI, 20% of the glue sniffers did nothing to treat it. Data on health seeking behaviour, disaggregated between glue sniffers and non-glue sniffers, is presented in figure 17 (multiple responses were allowed for this question). Compared to the non-glue sniffers, the glue sniffers were less likely to seek medical care – 13% of glue sniffers opted for self medication compared to none of the non-glue sniffers; and 20% of the glue sniffers did nothing about the health problem compared to 7% of non-glue sniffers. Utilization of the public health care facilities was low with only 7% of the glue sniffers who perceived to have an STD/STI going to a government hospital for treatment while none of the non-glue sniffers reported going to a government hospital.

Figure 17: Health seeking behaviour of respondents – glue sniffers vs. non-glue sniffers



This finding of overall low utilization of health services is also consistent with the health care seeking patterns observed in slums in urban Bangladesh when compared to non-slum areas. People living in slums are less likely to seek treatment from a health facility than people living in non-slum households. In 2006, of the children with acute respiratory infection in urban areas, 41% living in slums were taken to a health facility/provider compared to 73% living in non-slum households. Moreover, women in slums were less likely to go to a public health facility for their delivery, compared to women living in non-slum households – only 6.8% of all live births were at a public health facility for women in slums, 5.5% at private/NGO facility and 87.6% at home; compared to 20.2% at a public facility, 26% at private/NGO facility and 53.5% at home for women in non-slum households (Gustavo 2008).

When designing an intervention for this group of people, the pattern of health care seeking behaviour needs to be considered.

4. Factors affecting substance use and other risk factors relating to HIV vulnerability

The preceding chapters have used results from descriptive analyses (drawn from bivariate logistic regression models) to show that street children and adolescents in urban Bangladesh were using glue and other drugs, which indicated their vulnerability to risky practices, and therefore, to HIV. This chapter aims to show the linkage between glue sniffing and drug use to HIV vulnerability using multivariate logistic regression models.

Analyses were carried out separately to isolate the possible factors affecting glue sniffing, drug use, sex practices and condom use patterns of the respondents. Having accounted for the factor that sleeping on the streets at night made the respondents more vulnerable to all kinds of risks, multivariate regression analyses revealed that glue sniffing and use of other drugs do significantly contribute to risky sexual practices after controlling for other possible confounders. The respondents who slept at night on the streets were twice as more likely to be currently using drugs other than glue, whereas current glue sniffers were 5 times more likely to be currently using other drugs in combination with glue. Other drugs included pharmaceuticals, heroin, cannabis and injectables. This evidence establishes an association between glue sniffing and using other drugs, although it does not prove direct causality, which is beyond the scope of this study.

Further analyses were done on risky sexual practices. Three variables were used – ever had sex, had risky sex in the last act (which was defined as sex with a male/female sex worker and/or client in the last sex act), and condom use during the last sex act. Street children who slept on the street at night were 1.7 times more likely to have had sex (ever). Respondents, who were currently using glue only, were 3 times more likely to have had sex (ever), while respondents who were currently using glue along with other drugs were 4 times more likely to have had sex. And these two factors (use of glue only as well as combination of drugs with glue) were found to be statistically more significant than sleeping on the streets at night. Regarding risky sex, it was found that respondents who slept at night on the streets were twice as more likely to have had risky sex. While respondents who were currently using glue along with other drugs were 4.73 times more likely to have had risky sex in the last sex act. This was found to be statistically more significant than sleeping on the streets at night. Although females were less likely to use glue and other drugs than males, the female respondents were more likely to have sex and exhibited

risky practices, much more than the male respondents. Age was the other factor that was found to be statistical significant in contributing to risky sex practices. Regarding condom use, none of the possible confounders considered in the analysis were found to be significant.

Age, gender, sleeping on the streets at night, and family members using drugs were found to contribute significantly to the current use of glue of the respondents. As shown in table 5, with a one year increase in age, the respondents were 25% more likely to be current glue sniffers ($p < 0.001$). Respondents who slept on the streets at night were 3 times more likely to be current glue sniffers ($p < 0.001$) and the respondents whose family member used drugs were 1.8 times more likely to be current glue sniffers ($p < 0.01$). Female respondents were 63% less likely to be current glue sniffers than males ($p < 0.01$).

Table 5: Logit regression showing factors associated with current use of glue

Currently using glue	Odds Ratio	[95% Conf. Interval]	
Age in years	1.25***	1.14	1.38
Female	0.37**	0.18	0.75
Education in years	0.98	0.88	1.09
Sleep at night on the streets	3.09***	2.01	4.75
Income	1.07	0.89	1.28
Family member(s) use drugs	1.82**	1.17	2.84

[Number of obs = 640; LR chi2(6) = 87.03; Prob > chi2 = 0.0000; Log likelihood = -291.4113; Pseudo R2 = 0.1299]

NOTE: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

Table 6 highlights the factors associated with the current use of other drugs. These drugs included pharmaceuticals, cannabis, heroin and injectables, either consumed on their own or in combination. Factors that significantly contributed to use of other drugs included age, gender, sleeping on the streets at night, drug use in the family, and use of glue. People who slept at night on the streets were 2.12 times more likely to be currently using other drugs ($p < 0.01$); while current glue sniffers were 5 times more likely to be using other drugs ($p < 0.001$). With a one year increase in age, the respondents were 42% more likely to use other drugs ($p < 0.001$) while females were 63% less likely to be using other drugs than males ($p < 0.01$). Income was also found to be contributing to use of other drugs, with one point increase in the income quintile (based on monthly income reported by the respondents), current use of other drugs is likely to increase by 26% ($p < 0.05$).

Table 6: Logit regression showing factors associated with current use of drugs other than glue

Currently using other drugs	Odds Ratio	[95% Conf. Interval]	
Age in years	1.42***	1.28	1.57
Female	0.37**	0.18	0.77
Education in years	1.05	0.94	1.17
Sleep at night on the streets	2.12**	1.35	3.33
Income	1.26**	1.05	1.51
Family member(s) use drugs	2.14**	1.33	3.42
Currently using glue	5.01***	3.13	8.03

[Number of obs = 640; LR chi2(7) = 224.21; Prob > chi2 = 0.0000; Log likelihood = -269.99925; Pseudo R2 = 0.2934]

NOTE: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

Multivariate logit regressions were done to identify factors associated with risky sexual practices. Factors associated with having sex (ever) were found to be age, gender, and currently using glue and other drugs (whether separately or in combination). Sleeping at night on the streets was found to be less significant than the other factors.

Table 7: Logit regression showing factors associated with ever having sex

Ever had sex	Odds Ratio	[95% Conf. Interval]	
Age in years	1.55***	1.39	1.73
Female	9.70***	4.99	18.82
Education in years	0.91	0.81	1.02
Sleep at night on the streets	1.70**	1.06	2.71
Income	1.35**	1.11	1.63
Currently using glue only	3.30**	1.54	7.05
Currently using drugs other than glue	4.26***	2.32	7.83
Currently using glue and other drugs	4.16***	2.22	7.79

[Number of obs = 640; LR chi2(8) = 272.89; Prob > chi2 = 0.0000; Log likelihood = -255.35203; Pseudo R2 = 0.3483]

NOTE: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

As shown in table 7, older respondents were more likely to have had sex (ever). With a one year increase in age, the respondents were 1.5 times more likely to have had sex ever ($p < 0.001$). Females were nearly ten times more likely to have had sex than the male respondents ($p < 0.001$). Respondents, who were currently using glue only, were 3.3 times more likely to have had sex ever ($p < 0.01$). However, the respondents who were currently using glue along with other drugs were 4.15 times more likely to have had sex

ever ($p < 0.001$). Respondents who slept on the streets at night were 70% more likely to have had sex ever ($p < 0.05$).

Table 8: Logit regression showing factors that contribute to having sex with high risk group

Risky sex (in terms of sex partner)	Odds Ratio	[95% Conf. Interval]	
Age in years	1.42***	1.23	1.64
Female	8.53***	4.03	18.07
Education in years	0.97	0.84	1.11
Sleep at night on the streets	2.14**	1.18	3.88
Income	1.74***	1.38	2.21
Currently using glue only	2.38*	0.84	6.70
Currently using drugs other than glue	3.50**	1.62	7.54
Currently using glue and other drugs	4.74***	2.18	10.30

[Number of obs = 640; LR chi2(8) = 187.64; Prob > chi2 = 0.0000; Log likelihood = -171.45652; Pseudo R2 = 0.3537]

NOTE: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

Factors associated with risky sexual practices, in terms of selling sex to clients and having sex with a male/female sex worker in the last sex act, were age, gender, sleeping on the streets at night, and currently using glue and other drugs as shown in table 8. With a one year increase in age, the respondents were around 42% more likely to have had risky sex ($p < 0.001$). Female respondents were 8.5 times more likely to have risky sex ($p < 0.001$). Respondents who were currently using drugs other than glue were 3.5 times more likely to have had risky sex ($p < 0.01$) while respondents who were currently using glue along with other drugs were 4.74 times more likely to have risky sex ($p < 0.001$). Respondents who slept on the streets at night were twice as more likely to have had risky sex ($p < 0.05$). Respondents who were currently using only glue were 2.4 times more likely to have risky sex; this, however, is significant at the 10% level of significance.

Regarding condom use, none of the confounding factors considered in the logit model were found to be significant except for age and currently using drugs other than glue, as shown in table 9. With a one year increase in age, the respondents were 29% more likely to use a condom ($p < 0.01$). While the respondents who were currently using drugs other than glue were twice as more likely to use a condom in the last sex act ($p < 0.10$). As discussed in the previous chapter, the high level of condom use reported by the respondents, especially by females, could be the outcome of HIV prevention interventions of the Government of Bangladesh. As part of the

prevention programme, male condoms are distributed to female sex workers free of charge and behaviour change communication activities implemented to emphasize the necessity of using condom for protecting themselves from getting HIV and other sexually transmitted diseases.

Table 9: Logit regression showing factors associated with condom use

Condom use in last sex act	Odds Ratio	[95% Conf. Interval]	
Age in years	1.29**	1.078	1.55
Female	1.75	0.80	3.81
Education in years	1.08	0.92	1.27
Sleep at night on the streets	0.81	0.41	1.63
Income	1.12	0.88	1.44
Currently using glue only	1.16	0.34	3.97
Currently using drugs other than glue	2.12*	0.89	4.98
Currently using glue and other drugs	1.90	0.78	4.68

[Number of obs = 193; LR chi2(8) = 19.88; Prob > chi2 = 0.0108; Log likelihood = -116.46731; Pseudo R2 = 0.0786]

NOTE: * p < 0.10, ** p < 0.05, *** p < 0.001

5. Discussion, recommendations and way forward

5.1 Summary and discussion

Bangladesh has been successful in maintaining a low prevalence of HIV to date. The challenge is to sustain this low prevalence particularly with a concentrated epidemic among IDU in Dhaka and widespread sex work. Added to this problem is the fact that most drug users (both injecting and non-injecting) in Bangladesh are young people. Data in other countries of the region has shown that the pathway to injecting drug use starts with early initiation into drugs.

To understand the nature of solvent use and vulnerability of street children and adolescents in urban Bangladesh, this survey was conducted on a random sample of 640 people aged between 11 and 19 years in Dhaka and Chittagong. The majority of the respondents were slum dwellers with very limited educational attainments and involved in low income generating activities (mostly rag picking and begging). Based on the individual income reported by the respondents, average income per month was calculated as Tk. 4,000, which is below the average income per earner in urban areas of Bangladesh Tk. 6,975 (Bangladesh Bureau of Statistics 2005). It can be deduced that these street children and adolescents belong to the poorer strata of the society. In urban Bangladesh in 2006, 68% of slum dwellers belonged to the two lowest income quintiles – 65% in Dhaka and 73% in Chittagong (Gustavo 2008). Although the respondents spent most of their time on the streets, the majority reported that they lived with their families – almost 50% lived with their families and 7% with relatives. This is an important finding as it points to the critical role parents/families can play in influencing the behaviours of the street children, who are usually regarded as hard-to-reach population group. This feature is unique to Bangladesh as evidence in other countries including Pakistan and Indonesia show that most of the street children do not live with their families. In a survey conducted among 440 street children in Pakistan, 28% lived with their families (UNODC 2004).

Poverty and lack of food appeared to be the most compelling reasons for the respondents of this survey to be on the streets with almost three-quarter of the respondents identifying this as the cause. Other reasons included seeking employment, avoiding/overcoming domestic violence and the influence of peers. Abuse (both physical and verbal) was the biggest problem faced by the respondents on the streets and was mostly caused by

police and peers. These patterns are observed in other countries in the region including Nepal. In a survey conducted among 118 street children living on Kathmandu valley, reasons for being on the streets included domestic violence, deprivation/lack of food at home, seeking employment and friends' influence (Rai et. al. 2002). While in a survey conducted in 12 Zambian towns, 23% of 1584 street children reported arrest by police as a major problem faced by them on the streets (Muntingh 2006).

Cigarette/*biri* smoking was found to be pervasive among the respondents of this survey as well as use of glue and cannabis. 267 out of the 640 respondents (around 42% of the total survey population) reported that they have sniffed glue (ever) and 139 (roughly 50% of the people who ever sniffed glue) were current users. Glue was the most common solvent used by the respondents along with thinners and balm. Reasons stated for glue sniffing included peer pressure, out of curiosity, for pleasure, coping with tension, and overcoming family problems. These findings resonate with the evidence and patterns of drug use documented elsewhere. Glue sniffers in Bangladesh were more likely to use other drugs than non-glue sniffers – 65% of glue sniffers used other drugs compared to 42% of non-glue sniffers. Cannabis was the most common drug used by the glue sniffers. Other substances used by them included pharmaceuticals (mostly sleeping pills and in some cases antihistamine), alcohol, heroin and injectables. Injecting drug use was reported by only 7 out of the 140 glue sniffers interviewed. Prevalence of glue sniffing and use of other drugs were found to be similar in both the metropolitan areas surveyed.

A majority of the glue sniffers (97%) reported that they paid for the glue from their own income. Based on the data reported by the respondents who currently sniffed glue, average monthly expenditure on glue has been calculated to be Tk. 1120 per month. Compared to the average monthly earning of Tk. 4,000 (as stated earlier), expenditure on glues is significant accounting for almost a third of their earnings.

Peers appear to play a significant role in influencing the behaviours of these respondents. This is evident from two findings: among the respondents who had heard about glue sniffing, around 75% heard it from friends on the streets, while 72% of current glue sniffers were sniffing glue due to peer pressure. Moreover, 26% of the total respondents (167 out of the 640) stated that they lived with their friends.

The respondents were found to exhibit risky sexual practices, which make them vulnerable to HIV. One third of the respondents who have ever had

sex, the majority of whom were between 11 and 15 years. This is alarming for several reasons, including the fact that younger people have less knowledge of HIV and is at higher risk of getting HIV than those who had sex at a later age (The World Bank and UNAIDS 2009). A higher proportion of male glue sniffers reported having sex with FSW and documented lower levels of condom use than the male non-glue sniffers. 55% of male glue sniffers reported having sex with FSW and overall condom use was 31%; while 38% of the male non-glue sniffers reported having sex with FSW and overall condom use of 46%.

A large proportion of female glue sniffers (64%) reported selling sex to clients. Exactly the same proportion of female non-glue sniffers reported selling sex to clients. Frequency of sex was also higher for the females than the males. This is consistent with the finding that of the respondents who reported sex work as a profession, all were females. One of the reasons for this could be the fact that a higher proportion of females slept at night in parks/streets and public places than the males. A higher proportion of females reported using condoms in their last sex act, than the males. In Bangladesh, female condoms are not used and, therefore, the rates of condom use reported by the females represent the proportion of their sex partners who used a condom. This high level of condom use documented by the females could be the outcome of the HIV prevention interventions targeted at street based sex workers that the Government of Bangladesh has been implementing over the years. As part of the prevention programme, male condoms are distributed to FSWs free of charge and behaviour change communication activities implemented to emphasize the necessity of using condom for protecting themselves from getting HIV. Data relating to female respondents, however, need to be interpreted with caution since the number of female respondents in the survey was low (84 females out of the total 640 respondents).

Reasons cited for not using a condom were reduced pleasure, did not get time to buy a condom and felt shy to get a condom. Levels of knowledge about symptoms and ways of transmission of STD were found to be low among the respondents. Less than half of the respondents, who had heard about an STD, could identify common symptoms of gonorrhoea, for instance. Only 8% could identify symptoms of rectal infection. When asked about ways of transmission of an STD, 19% of the respondents, who had heard about an STD, identified sex between men as one of the ways of transmission and 3% identified sex with transgender. Around 60% of the respondents identified sex with an STD infected person without a condom as a way of transmission. Low levels of knowledge make these respondents

more vulnerable to contracting HIV and, therefore, points to the importance of raising awareness among the street children and adolescents. Low levels of knowledge have been documented among older drug users in Bangladesh as well, particularly IDU (The World Bank and UNAIDS 2009).

Other risky behaviour such as injecting drug use and selling blood were found to be low among the respondents of this survey. Although overall injecting drug use was low with 3% of the respondents reporting injecting drugs (ever), the data indicated a pattern of drug transition. Younger respondents (in the age range of 11 to 13 years) were more like to sniff glue than the older respondents (who were in the age range of 17 to 19 years), while the prevalence of injecting drug use increased with the age of the respondents.

An area of concern is the high rates of needle sharing among the respondents who injected drugs (56% shared needles everyday). Sharing of needles is one of the most common modes of HIV transmission among IDU.

All of these inter related issues – drug use, risky sexual practices, and low levels of knowledge of HIV – highlight the increased risk and vulnerability of the street children to HIV. Analyses were carried out separately to isolate the possible factors affecting glue sniffing, drug use, sexual practices and condom use patterns of the respondents of this survey. Having accounted for the factor that sleeping on the streets at night made the respondents more vulnerable to all kinds of risks, multivariate regression analyses revealed that glue sniffing and use of other drugs do significantly contribute to risky sexual practices after controlling for other possible confounders. The respondents who slept at night on the streets were twice as more likely to be currently using drugs other than glue, whereas current glue sniffers were five times more likely to be using other drugs (currently) in combination with glue. Respondents, who were currently using glue only, were three times more likely to have had sex (ever), while respondents who were currently using glue along with other drugs were four times more likely to have had sex. And these two factors (use of glue only as well as combination of drugs with glue) were found to be statistically more significant than sleeping on the streets at night. In terms of risky sex practices (defined as sex with a client/female sex worker/men who have sex with men), it was found that respondents who were currently using drugs other than glue were 3.5 times more likely to have had risky sex while the respondents who were currently using glue along with other drugs were 4.7 times more likely to have had risky sex.

This study suggests that glue sniffing play a critical role in early initiation into drug use and other risky practices; however, the specific role of glue sniffing alone as predictive of more serious injecting drug use need to be further studied. Interventions to protect street children need to be put in place. A major thrust of such initiatives should be educating these children and adolescents to make them aware of the potential risks and health hazards of drug use as there is a possibility that they will eventually graduate to becoming injecting drug users and increase their risk further of contracting HIV and other infections.

5.2 Recommendations

Solvent abuse is a relatively new phenomenon, particularly in Asia. This is an emerging problem among children and adolescents in South Asia and not much is known about it, especially not how to prevent or reduce the problem. Patterns of drug use as well as the confounding factors associated with it appear to be similar across countries: early initiation of drug use through glue sniffing. Glue sniffers also appear to be sexually active at early ages of their lives, increasing their susceptibility to HIV and other STD/STI.

The respondents of this survey were asked what could be done to dissuade them from drug use, including solvent use, and they identified employment, good environment, safe place to stay, education, and access to health care services as key measures. These are all fundamental human needs, and would require a multi-sector approach involving the health, nutrition and population sector; education; social protection; law and justice; and narcotics control to address their concerns. Within such a holistic strategy, it would help to identify specific issues targeting the social as well as economic conditions of the street children and include a time bound mitigation plan. To make a real and sustained difference to the conditions of the street children, such a multi-sector approach would need to tackle the many interlinked issues. While developing such a comprehensive national strategy, public-private partnerships could be initiated, drawing on the experience of agencies implementing similar programmes. Further analyses and operational research are also required to understand the deeper implications and nature of the problem of solvent/drug use among under-aged population.

Based on the findings of this survey, the following broad areas of intervention could be initiated in the short to medium term, integrating with existing programmes or seeking new innovative solutions:

- Community mobilization and working with families of the solvent users;
- Shelters for street children with interventions targeted at solvent users and outreach through peers;
- Targeted HIV prevention interventions for street children;
- Information and education of the general population.

Community mobilization and working with families of the street children. The majority of the solvent users in Bangladesh live with their families and relatives. These families can, therefore, play an important role in influencing the behaviours of their children. Counselling of the affected families should be done in order to make them aware of the problem and the ways to overcome the situation. Materials used for advocacy and counselling should be easy to understand and pictorially depicted as the educational attainment of slum dwellers in urban Bangladesh are low. Local communities should be mobilized to facilitate discussions within the communities and for providing moral support to the families of the affected children. Communities can also play a critical role in reducing the social stigma associated with drug use. They can also protect the street children and adolescents from exploitation and abuse by the peers and police.

Shelter for street children and outreach through peers. Peers play a critical role in the lives of the street children and adolescents. Peer groups should be counselled and provided with informal training to enable them to reach out to the solvent users and disseminate knowledge regarding solvent use as well as prevention mechanisms. Campaign and counselling targeted for the street children and adolescents who are into solvent use should be provided with information on drug use, the health hazards and other associated impacts on the user, and should be motivated for treatment and made aware of the HIV risk behaviours to ensure they adopt safer practices.

Shelters in the form of drop-in-centres could be set-up for the street children with activities particularly targeting the solvent users. These centres will have provisions for resting, bathing, cooking as well as treatment facilities for STD/STI management and other primary health care needs. Advocacy, counselling and group discussions will also be facilitated through these centres, which may be run by community based organizations and/or

non-government organizations. Lessons can be drawn from similar interventions in other countries, including:

- *Nayi Zindagi* (New Life) in Pakistan – is a harm reduction programme for drug users living on the streets. Key components of the programme include outreach; drop-in-centres; primary health care; counselling and peer education; needle syringe exchange; HIV/AIDS and safer sex education; condom distribution; referral to advanced medical care, legal care and residential drug treatment; and initiating contact with families.⁸
- *ESCAPE* (*Eradicating Sexual Child Abuse, Prostitution and Exploitation*) in Sri Lanka – was developed to respond to the increasing incidence of sexual abuse of children in Sri Lanka. The programme began by conducting training and raising awareness. Drop-in-centres were made available to affected children to offer them counselling services and play, stories, art and other child-friendly initiatives helped through their traumatic experiences (Miles 2000).
- *Sbaran's Women's Health Programme* in India – initiated research and awareness-raising related to drug abuse in slums in New Delhi. From this, they developed programmes focussing on HIV, AIDS education and care programme, production of educational and training material, networking and advocacy. Community outreach initiatives were also undertaken along with provisions for treatment through 'mobile clinics' (Miles 2000).
- *House of Hope* in Cambodia – is a residential home for girls who have overcome situations of sexual exploitations. These girls are then encouraged to counsel others and their feedback are sought on the implementation of the programme (Miles 2000).

Drop-in-centres have been set-up in Bangladesh for populations most-at-risk of HIV including sex workers and IDU. Similar centres could be set-up for the street children and adolescents who are into solvent and other drug use to ensure that they have access to treatment, care and support facilities as well as enhancing their social skills and raising their awareness about safe practices.

Targeted HIV prevention interventions for street children.

Through the shelter/drop in centres (as described above) and outreach

⁸ HIV/AIDS Prevention, Care and Support: Stories from the Community

activities, HIV prevention programme can be implemented for street children and adolescents. Similar to the national HIV prevention programme of the Government of Bangladesh which is targeted at most-at-risk population, a programme can be designed for these children. Among other things, the programme can include services like HIV advocacy and education, counselling and peer education, needle syringe exchange, condom promotion, primary health care, and shelter.

Information and education of the general population. The general population, including policy and decision makers, are unaware of the extent of the problem of solvent use in Bangladesh and the associated health hazards of it. A public awareness campaign could be initiated to highlight the public in general, about the dangers of solvent use and explain why it is a reason for concern. Awareness among policy makers and programme implementers are also required which could be achieved through further research and dissemination events. A special effort, involving all modes of communication, including print media, electronic media, brainstorming, and discussion sessions, should be explored and used to better disseminate information about solvent abuse as well as generate consensus on future interventions to protect the solvent users.

5.3 Way forward

This study aimed at providing an initial understanding of the nature and extent of drug use among street children and adolescents in urban areas of Bangladesh. It looked at the problem of drug use among children through the lenses of HIV and, therefore, was restricted in its scope and coverage. Future research is needed, including patterns of drug transitioning/progression of drug use from solvents to injectables, socio-economic factors instigating the habit, correlating and confounding factors associated with drug abuse, and risky sexual practices. Another important area that needs immediate attention is the fast changing lifestyle in the metropolitan areas in Bangladesh, particularly Dhaka, that involve risky sexual practices also among middle and high income quintiles. Going forward, in-depth analysis and surveillance is required to better understand the pattern and dynamics of drug abuse, which will assist in formulating prevention mechanisms.

It will be important to engage other social sectors than health in addressing this problem, and to discuss the way forward with key development partners, such as UNICEF, UNAIDS and UNODC, including how to integrate efforts to tackle glue sniffing and other early risky practices in ongoing programmes for vulnerable children and adolescents.

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